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Notification according to Art. 7 § 1, paragraph 2, no. 1 of the Law of 4. Sept. 1967 (BGBl. I, page 960):

Method for Ensilage of Green Fodder

The invention relates to a method for ensilage of green fodder, especially fodder such as grass, clover, maize or the like, in transportable amounts, in each case, in an air-tight film package.

Relative to ensilage in air-tight vertical silos, or cheaper, horizontal silos that are not secured against entry of air during removal, the known ensilage, in transportable amounts in an air-tight package made of film, has the advantage of significant cost saving by eliminating the expensive vertical silos and the advantage that always only the goods from an opened package can come in contact with air, while the rest of the goods are securely protected from entry of air. Another advantage is also that, in contrast to fermented fodder silos, no large space accessible to people is present, in which a significant oxygen deficiency prevails and which therefore forms a lethal hazard.

Ensilage in transportable amounts, just like ensilage in a silo, requires reduction of the air content in the green fodder. This is produced in the known method of ensilage in transportable amounts packed in film, in that the product, before packing, is compressed to bales, i.e., strongly compacted.

It is already known, in conjunction with ensilage of green fodder in larger, non-transportable amounts in large, sack-like film containers of 30 m³ content and more, to reduce the air content by suctioning air out of the closed package after filling of the product into the containers.

In each case, however, thus far, enough air was left in the green fodder, so that a fermentation process occurred and the usual fermented fodder was obtained from the ensilage product. The fermentation process, in a package made of film, has the hazard that the package as a result of gases released during fermentation will swell and ultimately burst, or at least become very easily damaged. In addition, fermented fodder is not as optimally usable as green fodder.

The underlying task of the invention is to remedy the aforementioned deficiency and, at the same time, further improve the quality of the ensilaged goods. This is achieved according to the

invention in the method of the type just mentioned, in that the air content in the packaged goods is reduced to an extent that no significant fermentation can occur.

The measures according to the invention have the effect that, because of the absence of significant fermentation, no noticeable gas development occurs either, which could put the package at risk. In addition, the product remains in the fully fresh state, which provides an optimum of usability. The partial vacuum in the package also gives the bale, or the like, good mechanical stability for storage.

In a further development of the invention, a particularly efficient procedure for the elimination of air from the green fodder, to the extent necessary for the method according to the invention, is proposed. Accordingly, the procedure is such, that the green fodder, in order to reduce the air content, is initially strongly compacted in a known manner before packing, or during packing, and the still remaining excess air content is then eliminated from the packed compacted goods by suctioning air out of the package in a likewise known manner.

The aforementioned combination of compaction and suctioning makes it possible to arrive at the desired low air content with economically acceptable means, which would only be attainable by one or the other method alone, if at all, only with very high equipment demands and correspondingly high costs.

Compaction of the goods can be carried out in simple manner by compression devices or baling presses with high pressure. However, it can also occur that the goods are twisted into strands and in so doing are compressed. These compressed, twisted strands can then be easily packed in film, just like bales. Another possibility of achieving compaction consists of hurling of the green fodder into the package suitably designed for this, for example, a plastic film sack.

Additional packaging means, such as cords, tapes, and the like, are unnecessary in the green fodder packed according to the invention, because the package and its contents are held in their shape by the air pressure acting from the outside.

Plastic films, such as polyethylene or polyvinylchloride films, are considered as films, which are considered air-tight, and packing can then occur merely by folding or heat sealing the films. Films in sheet form, sack form, or tube form can be used, where in the case of sack or tube form the sites at which air entry can occur are reduced to a minimum.

The compacted product can be packed in cube-like, cubic, or sack form, or tube form. In a package in tube form, it is possible to tie off the tube at intervals in the manner of a sausage.

Compression, packing and evacuation can already be carried out during harvesting in the field. However, it is also possible to only carry out compaction, or compaction and packing, in the field, and to conduct evacuation, or packing and evacuation, later.

Claims

1. Method for ensilage of green fodder, especially fodder, such as grass, clover, maize and the like, in transportable amounts, in each case, in an air-tight package from film, characterized by the fact that the air content in the packed goods is reduced to an extent, that no significant fermentation can occur.
2. Method according to Claim 1, characterized by the fact that the green fodder is strongly compacted before packing or during packing, to reduce the air content in a manner known on its own, and the still remaining excess air content is eliminated from the packed, compressed product, also in a manner known on its own, by suctioning the air from the package.
3. Method according to Claim 2, characterized by the fact that the green fodder is compacted by compression to bales, or by twisting to a strand, or hurling into a package suitable for this.